

MATERIAL SAFETY DATA SHEET

MSDS CODE: R01
IRON OXIDE RED

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MSDS DATE: 8/1/97
PRODUCT NUMBER: VARIOUS

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

Product Code: 100 160, 1117
Product Name: Iron Oxide Red
Synonyms: Synthetic Iron Oxide
Color Index Number: Pigment Red 101
DCMA Number: 3-06-7

Davis Colors, 3700 E. Olympic Blvd., Los Angeles, California, USA 90023
Business Tel: (213) 269-7311 9am-5pm (0900-1700) PST M-F
24 Hour Emergency (CHEMTREC): 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredients (29CFR1910.1200):

Components:	C.A.S.	%	Exposure Limits (8 Hrs.TWA)	
			OSHA PEL	ACGIH TLV
Silicon Dioxide	7631-86-9	(<1)	6 mg/m3	10 mg/m3
Iron Oxide (fume*)		(none)	10 mg/m3	5 mg/m3*
Iron Oxide (red)	1309-37-1	(95-99)	Not Est.	Not Est.

Non-Hazardous Ingredients:

Components:	C.A.S.	%	Exposure Limits (8 Hrs.TWA)	
			OSHA PEL	ACGIH TLV
-none				

*5 mg/m3 dust as Fe. These limits are for Iron Oxide FUME. A FUME is defined as an "aerosol of solid particles produced by condensation of vaporized iron metal", such as may occur during welding. In normal usages, iron oxide pigments are not present in the form of a FUME.

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Dry, red powder with little to no odor. Will not burn or react. Long term inhalation can cause lung irritation or siderosis. Packaging can burn in fire, releasing toxic gases or fumes.

Potential Health Effects:

Eyes: Non-irritating to the eyes. Excessive exposure to airborne dust may reduce visibility and/or cause unpleasant deposits.

Skin: Will not irritate skin and is not likely to cause allergic skin reaction. Injury to the skin or mucus membranes can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dust.

Ingestion: Small amounts (a tablespoonful) swallowed are not likely to cause injury. Not a hazard in normal industrial use.

Inhalation: Not a hazard in normal industrial use. Wear respirator and avoid breathing dust. As with all dusty materials, inhalation may cause respiratory irritation, sneezing, coughing and runny nose.

Human Effects and symptoms of overexposure:

Acute: To date, adverse health effects from exposure have not been reported among workers using this pigment.

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Chronic: Prolonged inhalation of amorphous silica may produce x-ray changes in the lungs without disability.

Other Effects: No chronic effects are known from repeated exposure to iron oxide PIGMENT. Prolonged inhalation (6 to 10 years) of iron oxide FUME has been reported to produce changes in lung x-rays of exposed individuals. This condition, siderosis, is considered to be benign pneumoconiosis that exhibits no adverse health effects. Siderosis has been observed among occupations such as arc-welders where iron oxide FUMES are present. To the best of our knowledge, this condition has not been observed after prolonged exposure to iron oxide pigment. There is no Iron Oxide FUME contained in this product and none should be generated under normal use.

Medical Conditions Aggravated by Exposure: None known

Carcinogenicity: IARC: Not Listed NTP: Not Listed OSHA: Not Regulated

Other: IARC and NTP both contain listings for underground hematite mining. These listings are for the occupational exposures associated with the mining process which include radon, a known lung carcinogen. NIOSH in the Registry of Toxic Effects of Chemical Substances (RTECS) lists Iron Oxide as a suspect human carcinogen. However, the IARC reference to underground hematite mining is the source for this classification. Based on information currently available, this product is not considered a carcinogen.

4. FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water. Remove contact lenses. Continue flushing. Consult a physician if irritation persists.

Skin: Wash with soap and water. Wash clothing before re-use. Get medical attention in the unlikely event that irritation develops or persists.

Ingestion: Swallowing less than an ounce will not cause harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and contact medical personnel or poison control center. Do not give anything by mouth to an unconscious person.

Inhalation: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dust or fumes, move from dusty area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

5. FIRE FIGHTING MEASURES:

Flammable Properties: Not Flammable.

Flash Point: Will not Flash.

Upper Explosive Limit (UEL): Will not explode

Lower Explosive Limit (LEL): Will not explode

Auto-ignition Temperature: This is a heat stable material. Will not auto-ignite

Extinguishing Media: This product is not combustible or flammable. Use extinguishing agents that are suitable to the surrounding fire; water spray, dry chemical, foam or CO2

Fire fighting Instructions: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes and smoke inhalation.

6. ACCIDENTAL RELEASE MEASURES

Small Spill: If dust is generated, use appropriate respiratory protection. Vacuum or scoop material into an appropriately marked container for re-use or disposal. Avoid excessive generation of dust.

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Large Spill: Use recommended protective clothing and respiratory protection. Use shovel to reclaim material. Vacuum or scoop material into an appropriately marked container for re-use or disposal. Avoid excessive generation of dust. Spill area can be washed with water. Collect wash water for approved disposal. Prevent runoff from entering storm sewers and ditches which lead to natural waterways.

7. HANDLING AND STORAGE

Storage: Store dry at ambient temperature away from food and beverages, excessive heat or flame sources (furnace, kilns, boilers etc.). Avoid breathing dust. Avoid contact with eyes and skin. Wash thoroughly after handling.

Handling: Avoid prolonged or repeated breathing of dust. Avoid getting in eyes or on skin. Wash thoroughly after handling. Avoid contact with moisture. Re-seal bag immediately after use.

Storage Temperature (Min/Max)....:Ambient/50°C (122°F)
Shelf Life.....:Unlimited in closed container
Special Sensitivity.....:None
Other Precautions.....:None

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Maintain air levels below the recommended exposure limit using exhaust ventilation if necessary.

Eyes: Safety Glasses.

Skin: Body-covering clothing. Rubber, Plastic, Leather or cloth gloves are suggested to facilitate personal hygiene.

Respiratory Protection: Work ambient dust concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator with dust prefilter should be worn.

Other: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals.

Work/Hygiene Practices: Employees should wash their hands and face before eating, drinking or using tobacco products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance.....:Solid Red Powder
Odor.....:Odorless
Physical State.....:Dry Powder
pH.....:4 - 8 in 10% aqueous solution
Vapor Pressure.....:Not a vapor
Vapor Density.....:Not a vapor
Boiling Point.....:Will not Boil
Freezing Point.....:Will not Freeze
Melting Point.....:Greater than 1000°C (1832°F)
Solubility in Water.....:Insoluble
Specific Gravity (g/ml).....:4.5 to 5.0
Bulk Density (kg/m3).....:600 to 1000 @ 20°C (68°F)
Particle Size (microns).....:0.3-0.6
Volatile Organic Compounds (VOC):None
Chemical Formula.....:Fe2O3

10. STABILITY AND REACTIVITY

Chemical Stability (Conditions to Avoid): This is a stable material

Incompatibility (materials to avoid): No known material incompatibilities

Decomposition Temperature F°(C°): Does not Decompose

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Hazardous Decomposition Products: None
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Eyes: Not irritating to rabbit eyes
Skin: Not irritating to rabbit skin Dermal, LD 50 not established for product
Ingestion: Non irritating. The oral, LD50 for rats is greater than 5000 mg/L
Inhalation: Non irritating. LC 50 not established for product
Subchronic: Data not established for product
Chronic/Carcinogenicity: Data not established for product
Other (Mutagenic, Teratogenic, Reproductive Tests): The IARC monograph on underground hematite mining (1972) states, "No carcinogenic effects were observed in mice, hamsters, or guinea pigs given ferric oxide intratracheally."

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Fish toxicity: Golden Orfe (*Leuciscus idus*) LC50 greater than 1000 mg/L
Chemical Fate Information: No appreciable bioconcentration is expected in the environment.

13. DISPOSAL CONSIDERATIONS

Material which cannot be re-used should be disposed in accordance with federal, state and local environmental control regulations at an authorized site. This product when discarded as sold is not a RCRA hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40CFR 261.20-24)

14. TRANSPORT INFORMATION

DOT Shipping Name: None
Technical Shipping Name: Inorganic Oxide
DOT Hazardous Classification: Non-Regulated
DOT Hazard Class: Non-Regulated
DOT Identification Number: None
DOT Labels required: None
DOT Placards required: None
UN Class: None
UN/NA Number: None
Freight Class: Iron Oxide, NOT (Inorganic Oxide)

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA: This product is not considered Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA/SUPERFUND: (40 CFR 117,302) Reportable Quantity (RQ): Not Reportable, however, we recommend you contact local authorities to verify requirements for your site.

Superfund Amendments and Reauthorization Act (SARA), Title III:

Section 302 (Extremely Hazardous Substances): None
Section 311/312 (Hazard Categories): Delayed Health Hazard
Section 313 (Reportable Toxic Ingredients):

Chemical Name:	C.A.S.	Concentration
None Reportable		

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T.S.C.A.: This product is listed on TSCA Inventory.

International Regulations

Canadian WHMIS: Not restricted/non-hazardous

Canadian Environmental Protection Act (CEPA): All components of this product are on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.

EINECS: All components of this product are on the European Inventory of Existing Commercial Chemical Substances.

State Regulations

California Proposition 65 Warning: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

<u>Chemical Name:</u>	<u>C.A.S.</u>	<u>Concentration</u>	<u>State Code</u>
Iron Oxide	1309-37-1	above 98%	PA3, NJ4, CN1
Lead	7439-92-1	<100 ppm	CA, MA
Cadmium	7440-43-9	<5 ppm	CA, MA
Arsenic	7440-38-2	<100 ppm	CA, MA
Copper	7440-50-8	<800 ppm	CA, MA
Manganese	7439-96-5	<2000 ppm	CA, MA
Mercury	7439-97-6	<1 ppm	CA
Nickel	7440-02-0	<400 ppm	CA, MA
Silicon Dioxide	7631-86-9	<1%	PA, NJ
Calcium Carbonate	1317-65-3	<5%	PA, NJ

Note: This information based on random sample analyses. Actual content may vary from batch to batch.

CA= Calif. Safe Drinking Water and Toxic Enforce Act (Prop.65)

CN1= Canada WHMIS Ingredient Disclosure List over 1%.

MA= Massachusetts Hazardous Substance List

NJ4= New Jersey Other- included in 5 predominant ingredients >1%

PA3= Pennsylvania Non-hazardous present at 3% or greater

16. OTHER INFORMATION

HMIS Codes:H=0, F=0, R=0, P=0 (0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe)

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